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Two-parameter measurements of the principal Hugoniot of x-ray transmissive materials up to 40 Mbar*

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We will present results of experimental measurements of principal Hugoniot of x-ray transmissive materials shocked to pressures up to 40 Mbar. Using side-on x-radiography, two-section samples shocked by a Nova hohlraum x-ray drive are followed in time. The shock front is tracked by the difference in transmission between the compressed and uncompressed material. The interface between the two sections is also observed as the shock accelerates it. The two speeds inferred from these measurements define a point on the principal Hugoniot.

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